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10/762,541	01/23/2004	Jun-ichi Matsuda	017344-0328	2577

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FOLEY AND LARDNER LLP
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER	
TAYLOR, BARRY W	
ART UNIT	**PAPER NUMBER**
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/762,541	MATSUDA, JUN-ICHI	
	Examiner	Art Unit	
	Barry W. Taylor	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 June 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-70* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-70* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-9, 11-16, 20-23, 26-34, 36-41, 45-48, 52-60 and 64-67 are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al (6,313,787 hereinafter King) in view of Maanoja et al (7,069,023 hereinafter Maanoja) further in view of Carlsson et al (7,054,283 hereinafter Carlsson).

Regarding claim 1. King teaches a location system comprising:

a mobile terminal (see item 104 figure 2);

a plurality of wireless nodes for establishing a wireless link to said mobile terminal (see figure 2 wherein mobile communicates to plurality of nodes 142, 102 and 143); and

a controlling node connected to said wireless nodes (see item 124 figure 2), the controlling node transmitting a control message to said mobile terminal in response to a location request message from a client terminal (see client terminal 128 figure 2).

King does not teach said location request message containing requested accuracy of location information of said mobile terminal and said control message containing a copy of said requested accuracy,

said mobile terminal being responsive to said control message for selecting one of the positioning methods that satisfies the requested accuracy of the control message and operating the location processor of the selected method to produce measurement data. King only shows a method and apparatus for A-GPS.

Maanoja teaches client terminal (item 09 figure 1) request location of Mobile terminal (100 figure 1). Maanoja also teaches location services wherein a plurality of location calculating methods are used (abstract) and dynamically selected in either the Mobile station or at the network side (col. 1 lines 28 – col. 2 line 56, col. 4 lines 35-67, col. 7 lines 37-63, col. 8 lines 1-65, col. 9 lines 45-58, col. 10 lines 4-51) to provide a way in which efficiency of location resources in a communication system can be improved (col. 1 lines 1-5), as well as, allowing for new location calculation methods to be introduced when they are developed (col. 2 lines 44-56). Maanoja teaches the location calculation methods may be chosen with respect to accuracy (col. 5 line 1 – col. 6 line 67). For example, Maanoja teaches that OTDA and A-GPS calculation methods are very accurate when cell sizes is large and there are no big obstacles which interfere with line- of-site and Cell ID location calculation method is very good in urban areas where cell sizes are very small and buildings cause fading, reflection and shield GPS satellites (col. 6 line 67 – col. 7 line 26). Maanoja teaches the mobile station dynamically selects (figures 4, 6 and 7) or the dynamic selection of location calculating methods may be performed at the network level (figure 8, col. 10 lines 4-6). Maanoja shows that E-OTD has relative high accuracy in the range of 0 to 100 meters and A-GPS has a higher accuracy in the range of 0 to 30 meters (column 6).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the network (i.e. SMLC in figure 2) or the mobile (i.e. 104 figure 2) as taught by King to include other methods as taught by Maanoja thereby improving on the efficiency of location resources as taught by Maanoja (col. 1 lines 5-7).

King in view of Maanoja do not explicitly show the mobile terminal indicating positioning methods supported by the mobile terminal to the controlling node.

Carlsson teaches a wireless network for location services wherein location messages flow between the mobile station and the SMLC to aid the mobile station in determining its position, aid the mobile terminal in taking position related measurements, and/or aid the SMLC in estimating the position of the mobile station, depending on the location measurement approach taken. For example, the location service messages may comprise so-called assistance data, such as GPS almanac data, GPS ephemeris data, or the like, provided by the SMLC to the mobile station. Alternatively, the location service messages may be timed signal measurements, or the like, provided by the mobile station to the SMLC (col. 4 lines 24-42). Carlsson teaches that if the mobile station supports any mobile station-based or mobile station-assisted positioning methods, the mobile station provides the support node with an indication of which positioning method it supports during the attach procedure (col. 6 line 61 – col. 7 line 36).

It would have been obvious for any one of ordinary skill in the art at the time of invention was made to use location service messages as taught by Carlsson into the

teachings of King in view of Maanoja in order to notify the support node of which position methods the mobile supports enabling the support node the ability to determine the accuracy of the location messages received from the mobile station since some methods are more accurate than others (i.e. A-GPS has accuracy of 0<30 meters and E-OTD has accuracy of 0 < 100 meters).

Regarding claim 26. Method claim 26 is rejected for the same reasons as system claim 1 since the recited components would perform the claimed method steps.

Regarding claim 52. Apparatus claim 52 is rejected for the same reasons as system claim 1 and method claim 26 listed above.

Regarding claims 2 and 27. Maanoja teaches said mobile terminal has capability information indicating positioning methods supported by the mobile terminal and selectability of the positioning methods, wherein said controlling node is arranged to: receive said capability information from said mobile terminal, and transmit said control message as a first control message to said mobile terminal if the capability information indicates that said mobile terminal is capable of selecting said positioning methods, transmit a second control message to said mobile terminal if the capability information indicates that said mobile terminal is not capable of selecting said positioning methods, said second control message specifying one of said positioning methods supported by said mobile terminal, and wherein said mobile terminal is responsive to said second control message for operating one of said location processors whose method is specified in the second control message to producing measurement data (see figures 6

and 7 wherein Mobile station has store 603 containing different location calculating methods (items 700 – 703 in figure 7).

Regarding claims 3 and 28. Maanoja teaches wherein said controlling node comprises a memory and is arranged to: map the transmitted capability information to identity of said mobile terminal in said memory, read the capability information corresponding to said mobile terminal in response to said location request message, and transmit said first control message or said second control message depending on the read capability information (see col. 10 lines 4-6 wherein the network can select which location calculation method to use).

Regarding claims 4, 29 and 53. King teaches wherein said mobile terminal is arranged to acquire assistance data from said controlling node and use the acquired assistance data to produce said measurement data (title, abstract teach Assisted GPS).

Regarding claims 5, 30 and 54. Maanoja teaches wherein said assistance data is one of mobile-assisted OTDOA assistance data, mobile-based OTDOA assistance data, mobile-based A-GPS assistance data, and mobile-assisted A- GPS assistance data (col. 5 lines 35-65).

Regarding claims 6, 31 and 55. Maanoja teaches wherein said mobile terminal is arranged to calculate said measurement data to produce location information of the mobile terminal and transmit the location information to said controlling node (col. 5 lines 15-65, col. 9 lines 45-58).

Regarding claims 7, 32 and 56. Maanoja teaches wherein said mobile terminal is arranged to find an available positioning method if said measurement data is not

successfully obtained and select one of the location processors corresponding to the available positioning method (col. 5 lines 15-65, col. 9 lines 45-58).

Regarding claims 8 and 33. Maanoja teaches the control node selects which position method to use (col. 10 lines 4-6).

Regarding claims 9 and 34. Maanoja teaches wherein said controlling node (col. 10 lines 4-6) is arranged to: determine whether a cell-identity positioning method (col. 5 lines 5-12) is satisfactory for the requested accuracy, detect identity of a cell in which the mobile terminal is located if the cell-identity positioning method is satisfactory for the requested accuracy, and translate the cell identity to location information of said mobile terminal.

Regarding claims 11-12 and 36-37. King in view of Maanoja and Carlsson do not show a server arranged to transmit an enquiry message to the mobile station in response to the location request message from a client terminal and receiving a reply message from the mobile terminal containing the capability information of the mobile terminal and transmitting the first or second control message to the mobile terminal depending on the capability information contained in the reply message.

Carlsson teaches a wireless network for location services wherein location messages flow between the mobile station and the SMLC to aid the mobile station in determining its position, aid the mobile terminal in taking position related measurements, and/or aid the SMLC in estimating the position of the mobile station, depending on the location measurement approach taken. For example, the location service messages may comprise so-called assistance data, such as GPS almanac data,

GPS ephemeris data, or the like, provided by the SMLC to the mobile station. Alternatively, the location service messages may be timed signal measurements, or the like, provided by the mobile station to the SMLC (col. 4 lines 24-42). Carlsson teaches that if the mobile station supports any mobile station-based or mobile station-assisted positioning methods, the mobile station provides the support node with an indication of which positioning method it supports during the attach procedure (col. 6 line 61 – col. 7 line 36).

It would have been obvious for any one of ordinary skill in the art at the time of invention was made to use location service messages as taught by Carlsson into the teachings of King in view of Maanoja in order to notify the support node of which position methods the mobile supports enabling the support node the ability to determine the accuracy of the location messages received from the mobile station since some methods are more accurate than others (i.e. A-GPS has accuracy of 0<30 meters and E-OTD has accuracy of 0 < 100 meters).

Regarding claims 13-14, 20-21, 38-39, 45-46, 57-58 and 64-65. King only shows A-GPS but is silent with respect to OTDA.

Maanoja teaches client terminal (item 09 figure 1) request location of Mobile terminal (100 figure 1). Maanoja also teaches location services wherein a plurality of location calculating methods are used (abstract) and dynamically selected in either the Mobile station or at the network side (col. 1 lines 28 – col. 2 line 56, col. 4 lines 35-67, col. 7 lines 37-63, col. 8 lines 1-65, col. 9 lines 45-58, col. 10 lines 4-51) to provide a way in which efficiency of location resources in a communication system can be

improved (col. 1 lines 1-5), as well as, allowing for new location calculation methods to be introduced when they are developed (col. 2 lines 44-56). Maanoja teaches the location calculation methods may be chosen with respect to accuracy (col. 5 line 1 – col. 6 line 67). For example, Maanoja teaches that OTDA and A-GPS calculation methods are very accurate when cell sizes is large and there are no big obstacles which interfere with line- of-site and Cell ID location calculation method is very good in urban areas where cell sizes are very small and buildings cause fading, reflection and shield GPS satellites (col. 6 line 67 – col. 7 line 26). Maanoja teaches the mobile station dynamically selects (figures 4, 6 and 7) or the dynamic selection of location calculating methods may be performed at the network level (figure 8, col. 10 lines 4-6). Maanoja teaches different parameters used (see figure 4, col. 8 lines 41-65 wherein "input from prior calculating process steps" read on past records).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the network (i.e. SMLC in figure 2) or the mobile (i.e. 104 figure 2) as taught by King to include other methods as taught by Maanoja thereby improving on the efficiency of location resources as taught by Maanoja (col. 1 lines 5-7).

Regarding claims 15-16, 22-23, 40-41, 47-48, 59-60 and 66-67. Maanoja teaches picking either A-GPS or observed time difference location method base upon desired time or accuracy (see columns 5-7).

2. Claims 10 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al (6,313,787 hereinafter King) in view of Maanoja et al (7,069,023

hereinafter Maanoja) and Carlsson et al (7,054,283 hereinafter Carlsson) further in view of Willars et al (2003/0013443 hereinafter Willars).

Regarding claims 10 and 35. King in view of Maanoja and Carlsson do not explicitly show a radio network controller of a radio access network which is connected to a core network including a location gateway and a serving node.

Willars teaches that radio network controllers are typically used to allow for handoff to take place (abstract, paragraphs 0028 and 0048).

It would have been obvious for any one of ordinary skill in the art at the time of invention to use radio network controllers as taught by Willars into the teachings of King in view of Maanoja and Carlsson to provide a mobile station with a list of neighboring cells that support that specific mobile's subscription as taught by Willars (paragraph 0028) thereby allowing for handoff to occur in a shared radio access network environment.

3. Claims 17, 24, 42, 49, 61 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al (6,313,787 hereinafter King) in view of Maanoja et al (7,069,023 hereinafter Maanoja) and Carlsson et al (7,054,283 hereinafter Carlsson) further in view of Kondou et al (2002/0156578 hereinafter Kondou).

Regarding claims 17, 24, 42, 49, 61 and 68. King in view of Maanoja and Carlsson do not show the mobile having table to store moving speeds.

Kondou also teaches a method and system for providing information for a mobile terminal (title, abstract) wherein a table to store moving speeds is used at the mobile

which reduces the number of Mobile-to-network queries thus saving on communication cost (paragraphs 0082 – 0084).

It would have been obvious for any one of ordinary skill in the art at the time of invention to use the table as taught by Kondou into the teachings of King in view of Maanoja and Carlsson in order to free up network resources by using a table at mobile station wherein Mobile-to-network communications are significantly reduced as taught by Kondou (see last four lines of paragraph 0082).

4. Claims 18-19, 25, 43-44, 50-51, 62-63, 69-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over King et al (6,313,787 hereinafter King) in view of Maanoja et al (7,069,023 hereinafter Maanoja) and Carlsson et al (7,054,283 hereinafter Carlsson) further in view of Mizugaki et al (2003/0128163 hereinafter Mizugaki).

Regarding claims 18-19, 25, 43-44, 50-51, 62-63, and 69-70. King in view of Maanoja and Carlsson do not show the mobile detecting moving speed.

Mizugaki also teaches a mobile and server for mobile terminal positioning system (title, abstract) wherein the mobile terminal changes a position detecting method in accordance with positioning accuracy based either on manual input of speed or the mobile detecting a present move speed (paragraphs 0005 – 0010, 0030, 0037 – 0040, 0045 – 0047).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the User Equipment as taught by King in view of Maanoja and Carlsson to incorporate a gyroscope as taught by Mizugaki so as to automatically detect

a travel speed thereby allowing the User Equipment to automatically change to a position detecting method that matches the current speed of the User Equipment as taught by Mizugaki (see last six lines of paragraph 0045).

Response to Arguments

5. Applicant's arguments with respect to claims 1-70 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry W. Taylor, telephone number (571) 272-7509, who is available Monday-Thursday, 6:30am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost, can be reached at (571) 272-7872. The central facsimile phone number for this group is **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (571) 272-2600, the 2600 Customer Service telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Centralized Delivery Policy: For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the central fax number **(571-273-8300).**

Barry W. Taylor
Art Unit 2617

Barry Taylor 8/10/07

BARRY TAYLOR
PRIMARY EXAMINER